

Wakefield

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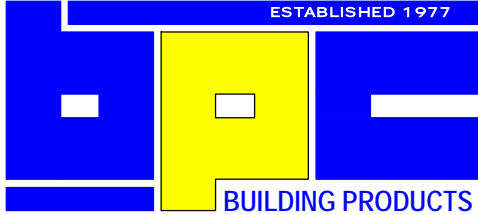
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Product Data Sheets

Contents

Test Methods & Safe Working Loads	1
GTH/11	2
GTH/15	3
GTH/18	4
GTH/24	5
GTH/35	6
Truss Clip	7
Mono Truss Shoe	8
A340	9
B340	10
Girder Truss Shoe	11
Mini Joist Support	12
MTH340	13/14
MTH380	15/16
MTH500	17/18
MTH620	19/20
Test Rig	21
Definitions	22
Safe Working Loads	23



Data Sheet

Test Methods & Safe

Working Loads

Test Methods

Data sheets for the following products are based on tests carried out 'in house' using a NAMAS calibrated rig.(see p21 for specification details), in association with Huddersfield University.

GTH series(11/15/18/24/35kN)

B340

MTH series(340/380/500/620)

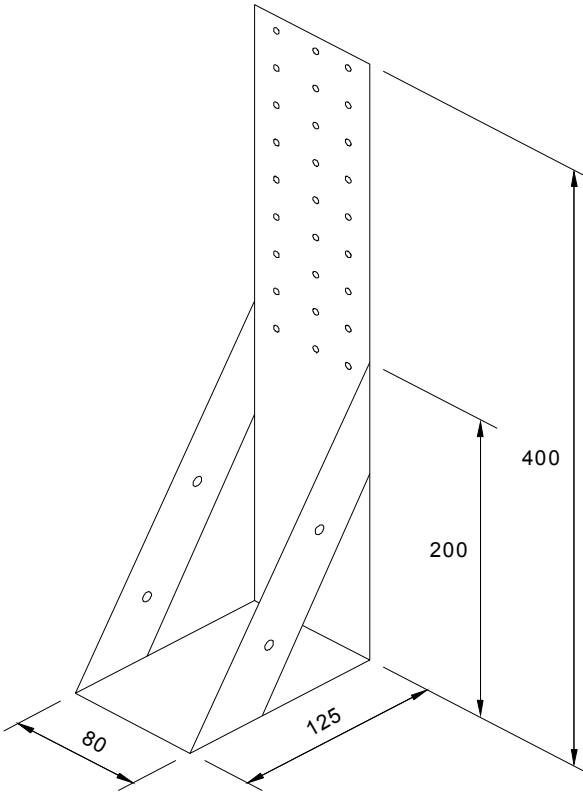
All other data sheets are based on tests carried out by Ceram Research, Stoke-on-Trent.

Notes!

- a) Individual copies of the full test reports are available on request
- b) Safe Working Loads to BS5268 Pt2 and Eurocode 5
- c) Safe Working Load is defined as the Characteristic strength/2

Data Sheet

Girder Hanger (GTH/11)



APPLICATION

Girder to girder hangers suitable for supporting a 2x35mm or 2x42mm truss. Due to the hanger depth (400mm) the supporting girder truss should have a vertical web positioned where the hanger is located. (Min width of web to allow for nails 20mm from the edge of the timber).

FIXING INSTRUCTIONS

All holes (4mm dia) to achieve the stated SWL should be nailed with 30 x 3.75mm sheradised square twist nails in all pre-punched holes.

Qty Supporting timber = 27
Supported timber = 4

SPECIFICATION

Matl: 2.5mm mild steel MIG welded and hot dip galvanised after fabrication to BSENISO1461:1999

SIDEPLATES

Use 3.75mm x 30mm sheradised square twisted nails in all pre-punched holes

SECONDARY GIRDER

Should be fixed above the hanger to the primary girder with a 'U' shaped strap (Bolted) or two 'L' shaped straps (Nailed)

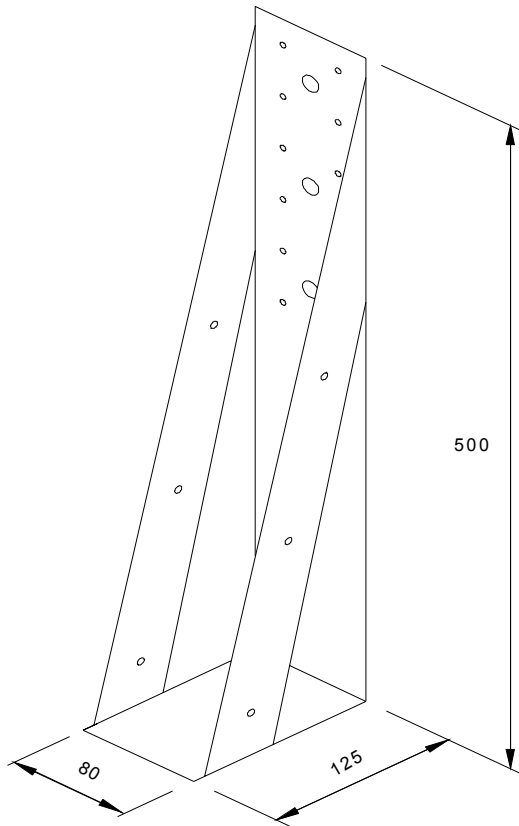
Bearing surface 125mm
Widths 80 and 101mm available

To order
Non standard widths
Stainless steel Grade 304

Joist Hanger design loads to BS5268 & Eurocode 5	
GTH11 hangers	
Mean working load @ 1.5 mm deflection (kN)	8.94
Mean working load @ 2.5 mm deflection (kN)	13.61
Mean ultimate load V_m (kN)	42.33
Statistical factor K	2.132
Standard deviation σ	4.26
Characteristic strength V_{ch} (kN)	33.24
Permissible safe working load (kN) (Long term)	
V_{BS} = Design value in accordance with BS5268 (kN)	18.73
V_{EC5} = Design value in accordance with EC5 (kN)	15.34
Permissible safe working load (kN) (Medium term)	
V_{BS} = Design value in accordance with BS5268 (kN)	20.92
Mean deflection (mm)	4.73
V_{EC5} = Design value in accordance with EC5 (kN)	20.46
Mean deflection (mm)	4.60
Permissible safe working load (kN) (Short term)	
V_{BS} = Design value in accordance with BS5268 (kN)	24.64
V_{EC5} = Design value in accordance with EC5 (kN)	23.01
Notes	
a. All values relate to a 6mm gap between the supporting joist and the supported joist.	

Data Sheet

Girder Hanger (GTH/15)



APPLICATION

A heavy duty shoe specifically designed for supporting a secondary multiple truss or purlin off another beam or multiple girder truss

FIXING INSTRUCTIONS

BACKPLATES

Use 12mm dia zinc plated bolts and nuts together with 75mm x 75mm square plate washers and single sided timber connector (all items supplied with hanger). To achieve the stated SWL use 3 x M12 dia bolts. Use 12 3.75mm x 30mm long square twist nails in all pre-punched holes.

Bolts M12 dia hex headed (high tensile 8.8) - 120/150/200mm long to suit various timber thicknesses. (Please specify length required when ordering)

SIDEPLATES

Use 6 3.75mm x 30mm sheradised square twisted nails in all pre-punched holes

SECONDARY GIRDER

Should be fixed above the hanger to the primary girder with a 'U' shaped strap (Bolted) or two 'L' shaped straps (Nailed)

Joist Hanger design loads to BS5268 & Eurocode 5	
GTH15 hangers	
Mean working load @ 1.5 mm deflection (kN)	9.30
Mean working load @ 2.5 mm deflection (kN)	13.54
Mean ultimate load V_m (kN)	40.04
Statistical factor K	2.132
Standard deviation σ	4.40
Characteristic strength V_{ch} (kN)	30.71
Permissible safe working load (kN) (Long term)	
V_{BS} = Design value in accordance with BS5268 (kN)	17.59
V_{EC5} = Design value in accordance with EC5 (kN)	14.17
Permissible safe working load (kN) (Medium term)	
V_{BS} = Design value in accordance with BS5268 (kN)	19.65
Mean deflection (mm)	4.61
V_{EC5} = Design value in accordance with EC5 (kN)	18.90
Mean deflection (mm)	4.38
Permissible safe working load (kN) (Short term)	
V_{BS} = Design value in accordance with BS5268 (kN)	23.14
V_{EC5} = Design value in accordance with EC5 (kN)	21.26
Notes	
a. All values relate to a 6mm gap between the supporting joist and the supported joist.	

SPECIFICATION

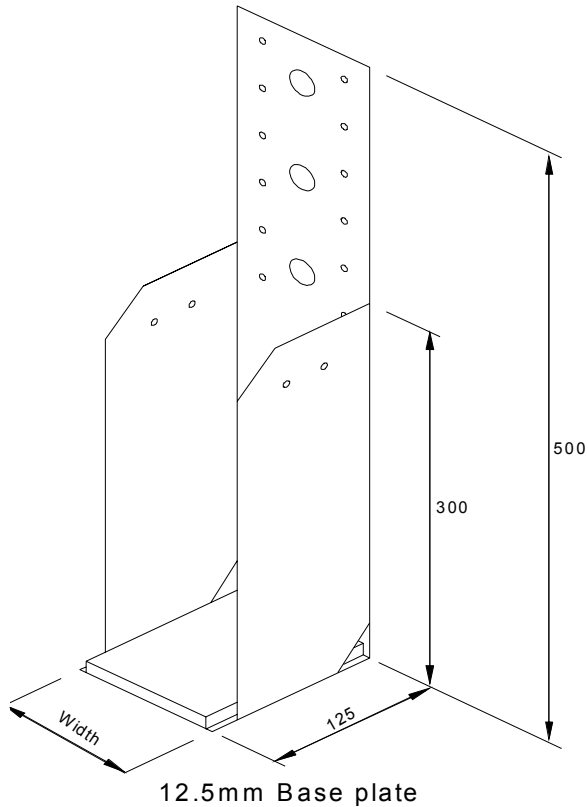
Matl: 2.5mm mild steel MIG welded and hot dip galvanised after fabrication to BSENISO1461:1999

Bearing surface 125mm
Widths 80mm available

To order
Non standard widths
Stainless steel Grade 304

Data Sheet

Girder Hanger (GTH/18)



APPLICATION

A heavy duty shoe specifically designed for supporting a secondary multiple truss or purlin off another beam or multiple girder truss

FIXING INSTRUCTIONS

BACKPLATES

Use 20mm dia zinc plated bolts and nuts together with 75mm x 75mm square plate washers and single sided timber connector (all items supplied with hanger). To achieve the stated SWL use 3 x M20 dia bolts. Use 12 3.75mm x 30mm long square twist nails in all pre-punched holes.

Fully threaded M20 dia high tensile (8.8) set screw - 120/150/200mm long to suit various timber thicknesses. (Please specify length required when ordering)

SIDEPLATES

Use 4 3.75mm x 30mm sheradised square twisted nails in all pre-punched holes

SECONDARY GIRDER

Should be fixed above hanger to the primary girder with a 'U' shaped strap (Bolted) or two 'L' shaped straps (Nailed)

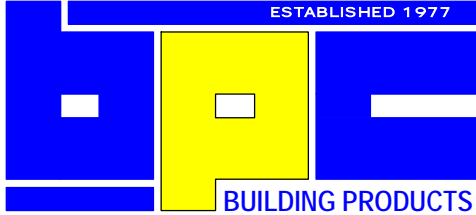
SPECIFICATION

Matl: 2.5mm mild steel MIG welded and hot dip galvanised after fabrication to BSENISO1461:1999

Bearing surface 125mm
Widths 80 and 105mm available

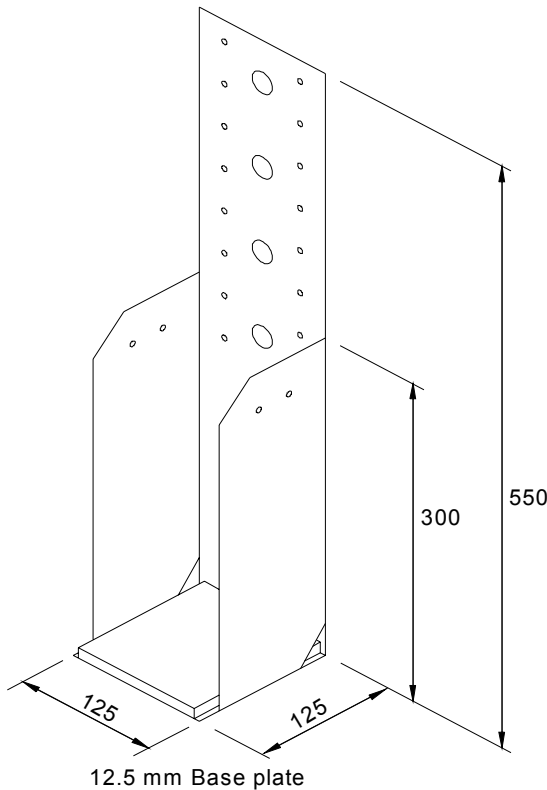
To order
Non standard widths
Stainless steel Grade 304

Joist Hanger design loads to BS5268 & Eurocode 5	
GTH18/105 hangers	
Mean working load @ 1.5 mm deflection (kN)	16.13
Mean working load @ 2.5 mm deflection (kN)	25.34
Mean ultimate load V_m (kN)	82.71
Statistical factor K	2.132
Standard deviation σ	10.01
Characteristic strength V_{ch} (kN)	61.36
Permissible safe working load (kN) (Long term)	
V_{BS} = Design value in accordance with BS5268 (kN)	33.61
V_{EC5} = Design value in accordance with EC5 (kN)	28.32
Permissible safe working load (kN) (Medium term)	
V_{BS} = Design value in accordance with BS5268 (kN)	37.55
Mean deflection (mm)	3.62
V_{EC5} = Design value in accordance with EC5 (kN)	37.76
Mean deflection (mm)	4.31
Permissible safe working load (kN) (Short term)	
V_{BS} = Design value in accordance with BS5268 (kN)	44.22
V_{EC5} = Design value in accordance with EC5 (kN)	42.48
Notes	
a. All values relate to a 6mm gap between the supporting joist and the supported joist.	



Data Sheet

Girder Hanger (GTH/24)



APPLICATION

A heavy duty shoe specifically designed for supporting a secondary multiple truss or purlin off another beam or multiple girder truss

FIXING INSTRUCTIONS

BACKPLATES

Use 20mm dia zinc plated bolts and nuts together with 75mm x 75mm square plate washers and single sided timber connector (all items supplied with hanger). To achieve the stated SWL use 4 x M20 dia bolts. Use 16 3.75mm x 30mm long square twist nails in all pre-punched holes.

Fully threaded M20 dia high tensile (8.8) set screw - 120/150/200mm long to suit various timber thicknesses. (Please specify length required when ordering)

SIDEPLATES

Use 4 3.75mm x 30mm sheradised square twisted nails in all pre-punched holes

SECONDARY GIRDER

Should be fixed above the hanger to the primary girder with a 'U' shaped strap (Bolted) or two 'L' shaped straps (Nailed)

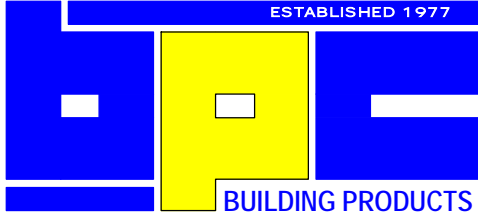
SPECIFICATION

Matl: 2.5mm mild steel MIG welded and hot dip galvanised after fabrication to BSENISO1461:1999

Bearing surface 125mm
Widths 125mm available

To order
Non standard widths
Stainless steel Grade 304

Joist Hanger design loads to BS5268 & Eurocode 5	
GTH24 hangers	
Mean working load @ 1.5 mm deflection (kN)	22.81
Mean working load @ 2.5 mm deflection (kN)	34.31
Mean ultimate load V_m (kN)	89.28
Statistical factor K	2.132
Standard deviation σ	6.11
Characteristic strength V_{ch} (kN)	76.25
Permissible safe working load (kN) (Long term)	
V_{BS} = Design value in accordance with BS5268 (kN)	40.98
V_{EC5} = Design value in accordance with EC5 (kN)	35.19
Permissible safe working load (kN) (Medium term)	
V_{BS} = Design value in accordance with BS5268 (kN)	45.78
Mean deflection (mm)	3.62
V_{EC5} = Design value in accordance with EC5 (kN)	46.92
Mean deflection (mm)	3.72
Permissible safe working load (kN) (Short term)	
V_{BS} = Design value in accordance with BS5268 (kN)	53.91
V_{EC5} = Design value in accordance with EC5 (kN)	52.79
Notes	
a. All values relate to a 6mm gap between the supporting joist and the supported joist.	



Data Sheet

Girder Hanger (GTH/35)

APPLICATION

A heavy duty shoe specifically designed for supporting a secondary multiple truss or purlin off another beam or multiple girder truss

FIXING INSTRUCTIONS

BACKPLATES

Use 20mm dia zinc plated bolts and nuts together with 75mm x 75mm square plate washers and single sided timber connectors (all items supplied with hanger). To achieve the stated SWL use 5 x M20 dia bolts. Use 20 3.75mm x 30mm long square twist nails in all pre-punched holes.

Fully threaded M20 dia high tensile (8.8) set screw - 120/150/200mm long to suit various timber thicknesses. (Please specify length required when ordering)

SIDEPLATES

Use 4 3.75mm x 30mm sheradised square twisted nails in all pre-punched holes

SECONDARY GIRDER

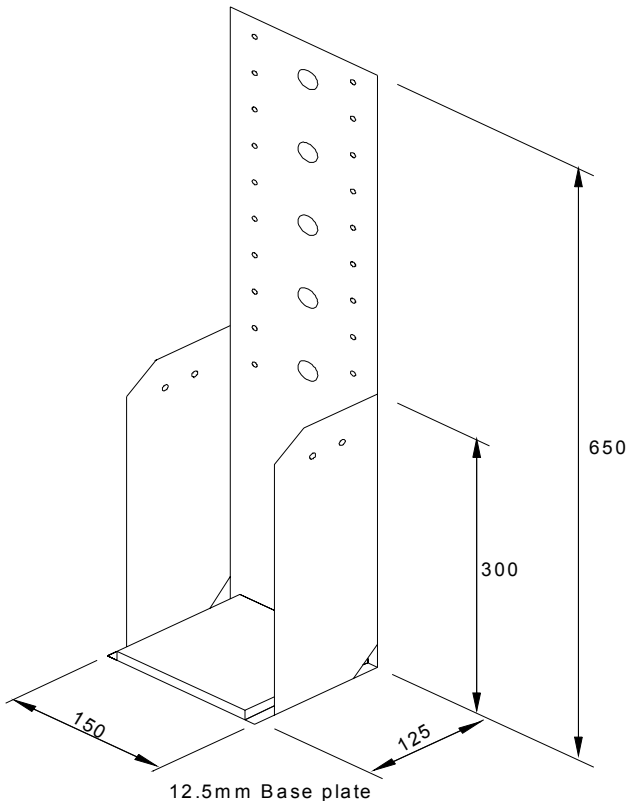
Should be fixed above the hanger to the primary girder with a 'U' shaped strap (Bolted) or two 'L' shaped straps (Nailed)

SPECIFICATION

Matl: 2.5mm mild steel MIG welded and hot dip galvanised after fabrication to BSENISO1461:1999

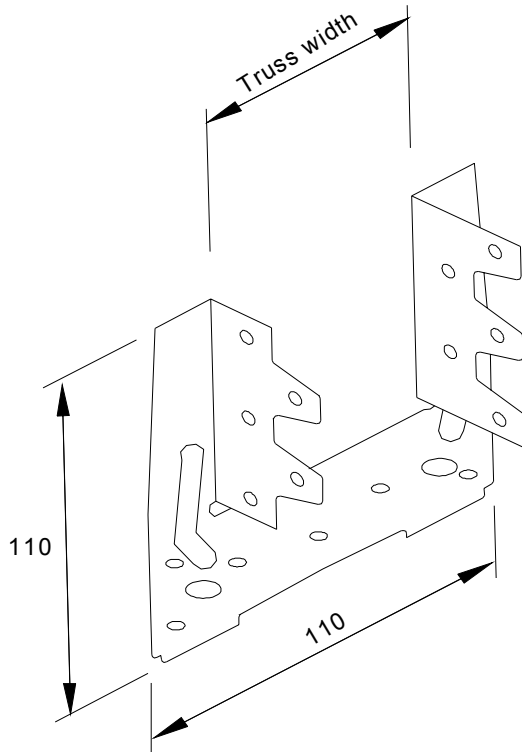
Bearing surface 125mm
Widths 150mm available

To order
Non standard widths
Stainless steel Grade 304



Joist Hanger design loads to BS5268 & Eurocode 5	
GTH 35 Hangers	150 mm
Mean working load @ 1.5 mm deflection (kN)	23.70
Mean working load @ 2.5 mm deflection (kN)	35.59
Mean ultimate load V_m (kN)	85.06
Statistical factor K	2.132
Standard deviation σ	15.17
Characteristic strength V_{ch} (kN)	52.71
Permissible safe working load (kN) (Long term)	
V_{BS} = Design value in accordance with BS5268 (kN)	34.10
V_{EC5} = Design value in accordance with EC5 (kN)	24.33
Permissible safe working load (kN) (Medium term)	
V_{BS} = Design value in accordance with BS5268 (kN)	38.09
Mean deflection (mm)	2.73
V_{EC5} = Design value in accordance with EC5 (kN)	32.44
Mean deflection (mm)	2.21
Permissible safe working load (kN) (Short term)	
V_{BS} = Design value in accordance with BS5268 (kN)	44.86
V_{EC5} = Design value in accordance with EC5 (kN)	36.49
Notes	
a. All values relate to a 6mm gap between the supporting joist and the supported joist.	

Data Sheet Truss Clip



APPLICATION

Purpose made truss clips are an inexpensive and effective method of providing a safe and positive fixing between trussed rafters and wallplates

FIXING INSTRUCTIONS

Use 3.75mm x 30mm long sheradised square twist nails in all pre-punched fixing holes.

Qty Supporting timber = 7
Supported timber = 10

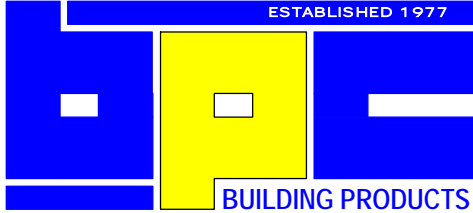
SPECIFICATION

All components are manufactured from 1mm hot dip galvanised coil to BS2989(G275) 1982EN/10142/1991

Widths 38 and 50mm

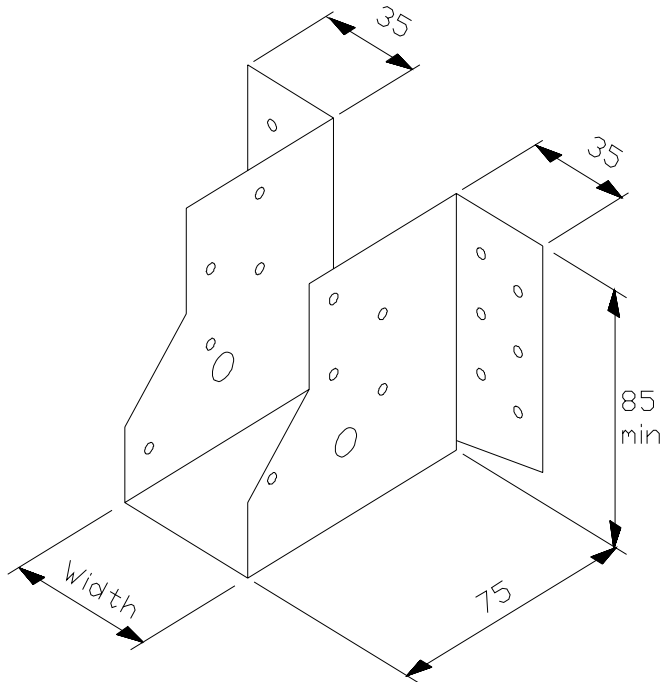
To order
Non standard widths
Stainless steel Grade 304

Truss Clip design loads to BS5268 & Eurocode 5		
Truss Clips	38mm	50mm
Mean working load @ 1.5 mm deflection (kN)	6.75	2.63
Mean working load @ 2.5 mm deflection (kN)	7.90	4.59
Mean ultimate load V_m (kN)	8.92	8.46
Statistical factor K	2.13	2.13
Standard deviation σ	1.81	1.20
Characteristic strength V_{ch} (kN)	5.06	6.72
Permissible safe working load (kN) (Long term)		
V_{BS} = Design value in accordance with BS5268 (kN)	3.26	3.92
V_{EC5} = Design value in accordance with EC5 (kN)	2.34	3.10
Permissible safe working load (kN) (Medium term)		
V_{BS} = Design value in accordance with BS5268 (kN)	3.64	4.38
V_{EC5} = Design value in accordance with EC5 (kN)	3.11	4.14
Permissible safe working load (kN) (Short term)		
V_{BS} = Design value in accordance with BS5268 (kN)	4.28	5.16
V_{EC5} = Design value in accordance with EC5 (kN)	3.50	4.65
Notes		
a. Design values for intermediate sizes determined by linear interpolation		
b. All values relate to a 5mm gap between the supporting member and the supported member		
c. All values based on independent testing carried out by Ceram Research		



Data Sheet

Mono Truss Shoe



APPLICATION

Suitable for supporting small mono or infill trusses

FIXING INSTRUCTIONS

Use 3.75mm x 30mm long sheradised square twist nails in all 4mm dia pre-punched holes.

Qty Supporting timber = 12
Supported timber = 10

SPECIFICATION

All components are manufactured from 1mm hot dip galvanised coil to BS2989(G275) EN/10142/1991

DIMENSIONS

Bearing length 75mm

To order

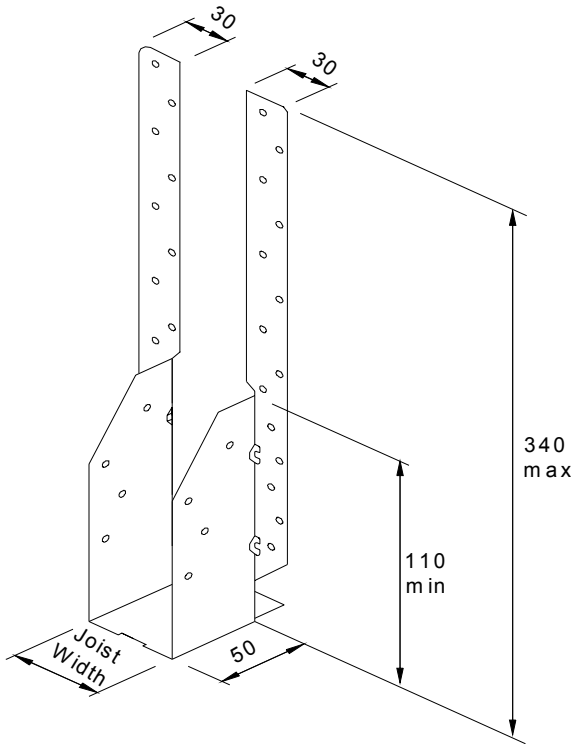
Non standard widths
Stainless steel

Timber Width	Height of side gusset	Leg length
38	92	92
50	86	86

Joist Hanger design loads to BS5268 & Eurocode 5		
Mono Truss Shoe	38mm	50mm
Mean load @ 1.5 mm deflection (kN)	7.24	6.25
Mean load @ 2.5 mm deflection (kN)	8.40	7.56
Mean ultimate load V_m (kN)	13.10	12.07
Statistical factor K	1.83	1.83
Standard deviation σ	1.64	0.86
Characteristic strength V_{ch} (kN)	10.00	10.48
Permissible safe working load (kN) (Long term)		
V_{BS} = Design value in accordance with BS5268 (kN)	5.39	5.45
V_{EC5} = Design value in accordance with EC5 (kN)	4.62	4.84
Permissible safe working load (kN) (Medium term)		
V_{BS} = Design value in accordance with BS5268 (kN)	6.02	6.08
V_{EC5} = Design value in accordance with EC5 (kN)	6.15	6.45
Permissible safe working load (kN) (Short term)		
V_{BS} = Design value in accordance with BS5268 (kN)	7.09	7.16
V_{EC5} = Design value in accordance with EC5 (kN)	6.92	7.25
Notes		
a. Design values for intermediate sizes determined by linear interpolation		
b. All values relate to a 5mm gap between the supporting member and the supported member		
c. All values based on independent testing carried out by Ceram Research		

Data Sheet

A340



APPLICATION

Designed for medium duty timber to timber connection. Maximum depth of timber 250mm

FIXING INSTRUCTIONS

Use 3.75mm x 30mm long sheradised square twist nails in all pre-punched fixing holes.

Qty Supporting timber = 30
Supported timber = 8

SPECIFICATION

All components are manufactured from 1mm hot dip galvanised coil to BS2989(G275)1982 EN/10142/1991

Joist Hanger design loads to BS5268 & Eurocode 5

A340	38mm	50mm	63mm	75mm	100mm
Mean load @ 1.5 mm deflection (kN)	10.58	10.84*	11.11*	11.36*	11.89
Mean load @ 2.5 mm deflection (kN)	12.50	12.52*	12.55*	12.58*	12.63
Mean ultimate load V_m (kN)	17.91	18.25*	18.59*	18.92*	19.60
Statistical factor K	1.83				2.31
Standard deviation σ	3.15				0.97
Characteristic strength V_{ch} (kN)	12.20	13.24*	14.36*	15.38*	17.53
Permissible safe working load (kN) (Long term)					
V_{BS} = Design value in accordance with BS5268 (kN)	6.06	6.64*	7.27*	7.85*	9.07
V_{EC5} = Design value in accordance with EC5 (kN)	5.63	6.11*	6.62*	7.10*	8.09
Permissible safe working load (kN) (Medium term)					
V_{BS} = Design value in accordance with BS5268 (kN)	6.77	7.42*	8.12*	8.77*	10.13
V_{EC5} = Design value in accordance with EC5 (kN)	7.51	8.14*	8.83*	9.47*	10.79
Permissible safe working load (kN) (Short term)					
V_{BS} = Design value in accordance with BS5268 (kN)	7.97	8.74*	9.56*	10.33*	11.93
V_{EC5} = Design value in accordance with EC5 (kN)	8.45	9.16*	9.94*	10.65*	12.14
Notes					
a. Design values for intermediate sizes determined by linear interpolation					
b. All values relate to a 5mm gap between the supporting member and the supported member					
c. All values based on independent testing carried out by Ceram Research except those marked ' * ' which are linearly interpolated					

DIMENSIONS

Bearing length 50mm

To order
Non standard widths
Stainless steel Grade 304

Timber Width	Height of side gusset	Leg Length
38	141	344
50	135	337
63	128	332
75	122	326
100	110	313

APPLICATION

Designed for medium duty timber to timber connection. Maximum depth of timber 250mm

FIXING INSTRUCTIONS

Use 3.75mm x 30mm long sheradised square twist nails in all pre-punched fixing holes.

Qty Supporting timber = 20

Supported timber = 6

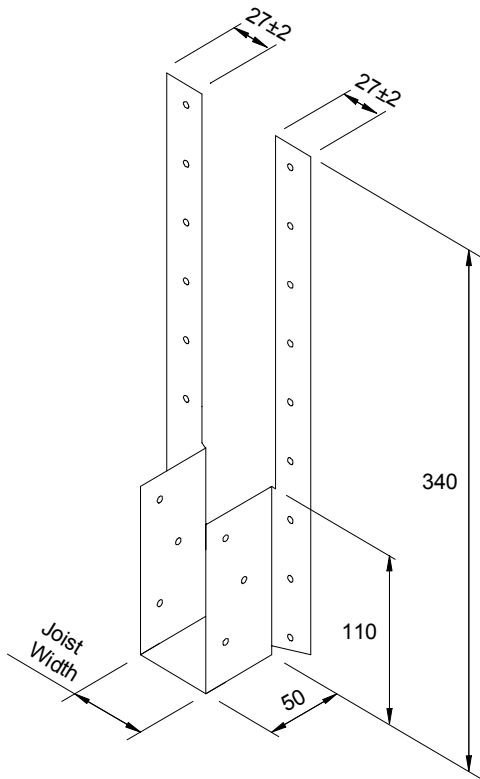
SPECIFICATION

All components are manufactured from 1.6mm hot dip galvanised coil to BS2989(G275)1982 EN/10142/1991

DIMENSIONS

Bearing length 50mm

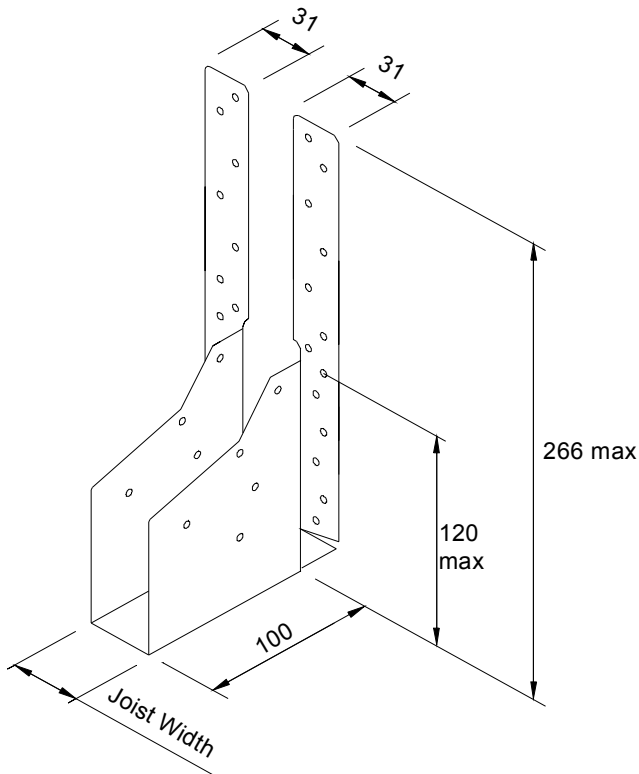
To order
Non standard widths
Stainless steel Grade 304



Joist Hanger design loads to BS5268 & Eurocode 5							
Hangers	B340/38	B340/50	B340/63	B340/75	B340/100	B340/125	B340/150
Width	38 mm	50 mm	63 mm	75 mm	100 mm	125 mm	150 mm
Mean working load @ 1.5 mm deflection (kN)	8.21	8.04*	7.87*	7.71	8.27*	8.82*	9.38
Mean working load @ 2.5 mm deflection (kN)	11.41	11.15*	10.87*	10.62	11.07*	11.53*	11.98
Mean ultimate load V_m (kN)	32.27	32.82*	33.41*	33.96	34.01*	34.07*	34.12
Statistical factor K	2.13			2.13			2.13
Standard deviation σ	7.26			3.07			5.29
Characteristic strength V_{ch} (kN)	16.79	20.23*	23.96*	27.41	25.89*	24.37*	22.85
Permissible safe working load (kN) (Long term)							
V_{BS} = Design value in accordance with BS5268	13.55	14.11*	14.72*	15.28	14.93*	14.59*	14.24
V_{EC5} = Design value in accordance with EC5 (kN)	7.75	9.34*	11.06*	12.65	11.95*	11.25*	10.55
Permissible safe working load (kN) (Medium term)							
V_{BS} = Design value in accordance with BS5268	15.13	15.76*	16.44*	17.07	16.68*	16.30*	15.91
Mean deflection (mm)	4.93	5.30*	5.71*	6.08	5.90*	5.72*	5.54
V_{EC5} = Design value in accordance with EC5 (kN)	10.33	12.45*	14.75*	16.87	15.93*	15.00*	14.06
Mean deflection (mm)	2.47	3.59*	4.81*	5.93	5.40*	4.87*	4.34
Permissible safe working load (kN) (Short term)							
V_{BS} = Design value in accordance with BS5268	17.82	18.56*	19.36*	20.10	19.64*	19.19*	18.73
V_{EC5} = Design value in accordance with EC5 (kN)	11.63	14.01*	16.59*	18.98	17.93*	16.87*	15.82
Notes							
a. All values relate to a 6mm gap between the supporting and the supported joist.							
b. Values marked ' * ' are linearly interpolated							

Data Sheet

Girder Truss Shoe



APPLICATION

Designed to provide a structural connection between a truss and a girder truss or beam

FIXING INSTRUCTIONS

Use 3.75mm x 30mm long sheradised square twist nails in all pre-punched holes. Nail qty

Supporting timber = 28

Supported timber = 10

The leg section of the shoe should be folded over the ceiling tie of the girder truss or fixed vertically to the face of a truss member and fully nailed

SPECIFICATION

All components are manufactured from 1.2mm hot dip galvanised coil to BS2989(G275) 1982 EN/10142/1991

Joist Hanger design loads to BS5268 & Eurocode 5

Girder Truss Shoes	38mm	50mm	63mm	75mm	100mm
Mean working load @ 1.5 mm deflection (kN)	7.58	8.47*	9.44*	10.33	12.19*
Mean working load @ 2.5 mm deflection (kN)	9.88	10.58*	11.34*	12.05	13.52*
Mean ultimate load V_m (kN)	20.70	21.49*	22.35*	23.14	27.79*
Statistical factor K	1.83			2.13	
Standard deviation σ	2.12			0.64	
Characteristic strength V_{ch} (kN)	16.82	18.44*	20.18*	21.78	25.14*
Permissible safe working load (kN) (Long term)					
V_{BS} = Design value in accordance with BS5268 (kN)	9.29	9.82*	10.39*	10.92	12.02*
V_{EC5} = Design value in accordance with EC5 (kN)	7.76	8.50*	9.30	10.05	11.59*
Permissible safe working load (kN) (Medium term)					
V_{BS} = Design value in accordance with BS5268 (kN)	10.38	10.97*	11.62*	12.21	13.44*
V_{EC5} = Design value in accordance with EC5 (kN)	10.35	11.34*	12.41*	13.40	15.46*
Permissible safe working load (kN) (Short term)					
V_{BS} = Design value in accordance with BS5268 (kN)	12.22	12.92*	13.68*	14.38	15.79*
V_{EC5} = Design value in accordance with EC5 (kN)	11.64	12.75*	13.96*	15.08	17.40*
Notes					
a. Design values for intermediate sizes determined by linear interpolation					
b. All values relate to a 5mm gap between the supporting member and the supported member					
c. All values based on independent testing carried out by Ceram Research except those marked ' * ' which are linearly interpolated					

DIMENSIONS

Bearing length 100mm

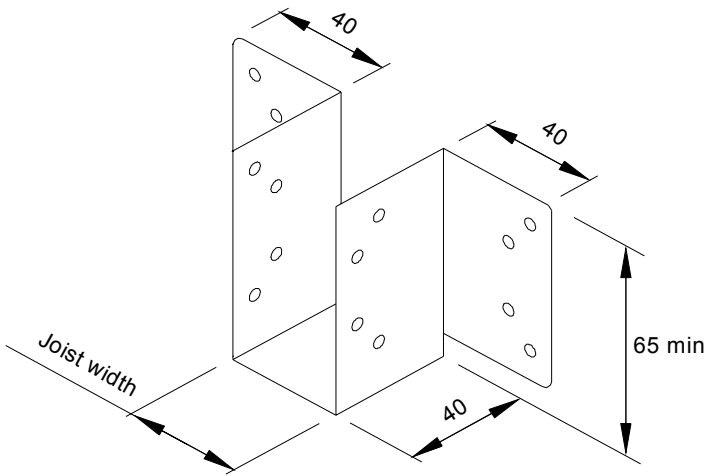
To order

Non standard widths
Stainless steel Grade 304

Timber Width	Height of side gusset	Leg Length
38	120	266
50	113	260
63	107	254
75	101	248
100	101	248

Data Sheet

Mini Joist Support



APPLICATION

These small hangers are ideal for trimming around ceiling hatches and other similar light duty applications

FIXING INSTRUCTIONS

Use 3.75mm x 30mm long sheradised square twist nails in all pre-punched holes

Qty Supporting timber = 8
Supported timber = 8

SPECIFICATION

All components are manufactured from 1mm hot dip galvanised coil to BS2989 (G275) EN/10142/1991

Joist Hanger design loads to BS5268 & Eurocode 5		
Mini Joist Supports	38mm	50mm
Mean working load @ 1.5 mm deflection (kN)	3.37	3.20
Mean working load @ 2.5 mm deflection (kN)		
Mean ultimate load V_m (kN)	7.78	8.69
Statistical factor K	1.86	1.83
Standard deviation σ	0.69	0.78
Characteristic strength V_{ch} (kN)	6.49	7.26
Permissible safe working load (kN) (Long term)		
V_{BS} = Design value in accordance with BS5268 (kN)	3.24	3.67
V_{EC5} = Design value in accordance with EC5 (kN)	3.00	3.35
Permissible safe working load (kN) (Medium term)		
V_{BS} = Design value in accordance with BS5268 (kN)	3.54	4.10
V_{EC5} = Design value in accordance with EC5 (kN)	3.99	4.47
Permissible safe working load (kN) (Short term)		
V_{BS} = Design value in accordance with BS5268 (kN)	4.16	4.83
V_{EC5} = Design value in accordance with EC5 (kN)	4.49	5.03
Notes		
a. Design values for intermediate sizes determined by linear interpolation		
b. All values relate to a 5mm gap between the supporting member and the supported member		
c. All values based on independent testing carried out by Ceram Research		

DIMENSIONS

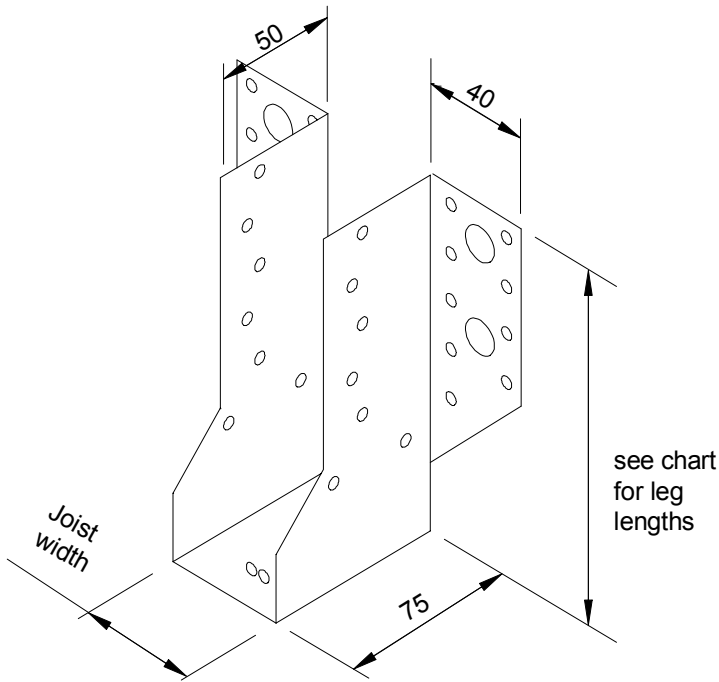
Bearing length 40mm

To order

Non standard widths

Stainless steel Grade 304

Timber Width	Height of side gusset	Leg length
38	71	71
50	65	65



APPLICATION

This component combines both nail and bolt holes and is used for heavy duty applications such as multiple truss units, main trimmer joists, purlin to beam connections or similar situations where unusually heavy loads occur.

FIXING INSTRUCTIONS

Use either 3.75mm x 30mm long sheradised square twist nails

Qty Supporting timber = 22

Supported timber = 14

or 4 M12 dia high tensile (8.8) bolts or both in all holes provided.

SPECIFICATION

Component is manufactured from 2mm galvanised steel to BS2989 Z2 class 'C' coating G275/ BSEN10142/1991

Dimensions			
Type	Joist width	Gusset height	Leg length
MTH340/38	38	150	150
MTH340/50	50	145	145
MTH340/63	63	138	138
MTH340/75	75	132	132
Bearing length 75			
All values are in millimetres			

Joist Hanger design loads to BS5268 & Eurocode 5						
	MTH340/ 38	MTH340/ 38	MTH340/ 38	MTH340/ 50	MTH340/ 50	MTH340/ 50
	Nails only	Bolts only	Bolts & Nails	Nails only	Bolts only	Bolts & nails
Mean load @ 1.5 mm deflection (kN)	8.83	9.50	11.31	7.97*	8.69*	10.45*
Mean load @ 2.5 mm deflection (kN)	12.29	12.48	16.05	10.74*	11.37*	14.65*
Mean ultimate load V_m (kN)	27.70	30.74	33.95	27.35*	29.55*	34.47*
Statistical factor K	2.13	2.13	2.13			
Standard deviation σ	4.34	2.54	3.61			
Characteristic strength V_{ch} (kN)	18.45	25.32	26.26	20.22*	22.94*	28.96*
Permissible safe working load (kN) (Long term)						
V_{BS} = Design values (BS5268 (kN))	11.25	13.60	15.74	11.84*	12.73*	16.25*
V_{EC5} = Design values (EC5 (kN))	8.51	11.69	12.12	9.33*	10.59*	13.37*
Permissible safe working load (kN) (Medium term)						
V_{BS} = Design values (BS5268 (kN))	12.56	15.19	17.58	13.22*	14.22*	18.16*
Mean deflection (mm)	2.66	3.34	2.94	3.65*	3.72*	3.80*
V_{EC5} = Design values (EC5 (kN))	11.35	15.58	16.16	12.44*	14.12*	17.82*
Mean deflection (mm)	2.28	3.51	2.57	3.37*	3.70*	3.78*
Permissible safe working load (kN) (Short term)						
V_{BS} = Design values (BS5268 (kN))	14.80	17.89	20.70	15.57*	16.74*	21.38*
V_{EC5} = Design values (EC5 (kN))	12.77	17.53	18.18	14.00*	15.88*	20.05*
	MTH340/ 63	MTH340/ 63	MTH340/ 63	MTH340/ 75	MTH340/ 75	MTH340/ 75
	Nails only	Bolts only	Bolts & nails	Nails only	Bolts only	Bolts & nails
Mean load @ 1.5 mm deflection (kN)	7.04	7.82	9.52	7.92	9.63	10.01
Mean load @ 2.5 mm deflection (kN)	9.06	10.17	13.14	11.16	12.48	14.42
Mean ultimate load V_m (kN)	26.98	28.27	35.04	32.14	36.3	38.69
Statistical factor K	2.13	2.13	2.13	2.13	2.13	2.13
Standard deviation σ	2.26	3.52	1.48	1.66	1.73	1.12
Characteristic strength V_{ch} (kN)	22.16	20.76	31.88	28.59	32.6	36.31
Permissible safe working load (kN) (Long term)						
V_{BS} = Design values (BS5268 (kN))	12.48	11.79	16.82	15.16	17.31	18.77
V_{EC5} = Design values (EC5 (kN))	10.23	9.58	14.72	13.20	15.05	16.76
Permissible safe working load (kN) (Medium term)						
V_{BS} = Design values (BS5268 (kN))	13.94	13.17	18.79	16.93	19.34	20.97
Mean deflection (mm)	4.73	4.14	4.73	4.95	5.12	4.65
V_{EC5} = Design values (EC5 (kN))	13.64	12.78	19.62	17.60	20.07	22.34
Mean deflection (mm)	4.56	3.90	5.09	5.23	5.41	5.23
Permissible safe working load (kN) (Short term)						
V_{BS} = Design values (BS5268 (kN))	16.41	15.51	22.13	19.94	22.77	24.69
V_{EC5} = Design values (EC5 (kN))	15.34	14.38	22.08	19.80	22.58	25.13
Notes						
a) All values relate to a 6mm gap between the supporting and the supported joist.						
b) Values marked '*' are linearly interpolated						

APPLICATION

This component combines both nail and bolt holes and is used for heavy duty applications such as multiple truss units, main trimmer joists, purlin to beam connections or similar situations where unusually heavy loads occur.

FIXING INSTRUCTIONS

Use either 3.75mm x 30mm long sheradised square twist nails

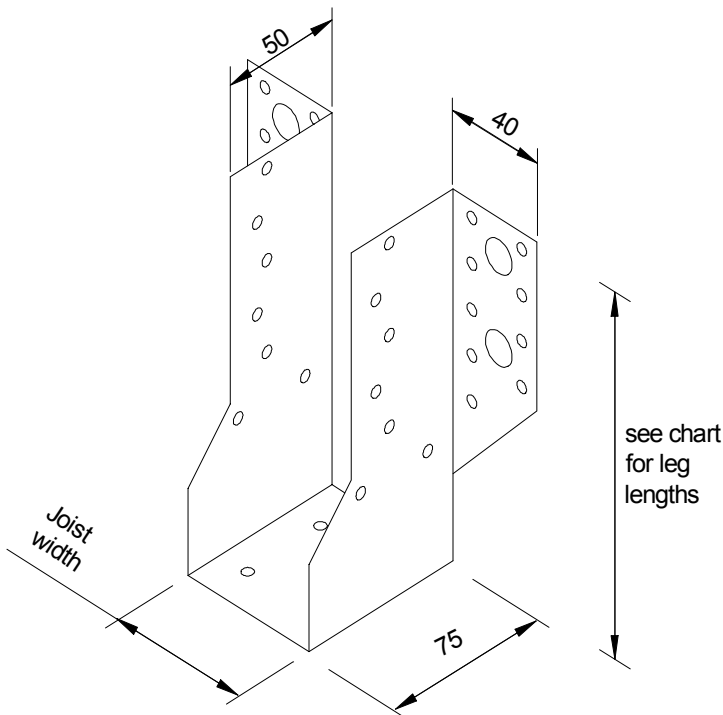
Qty Supporting timber = 22

Supported timber = 14

or 4 M12 dia high tensile (8.8) bolts or both in all holes provided.

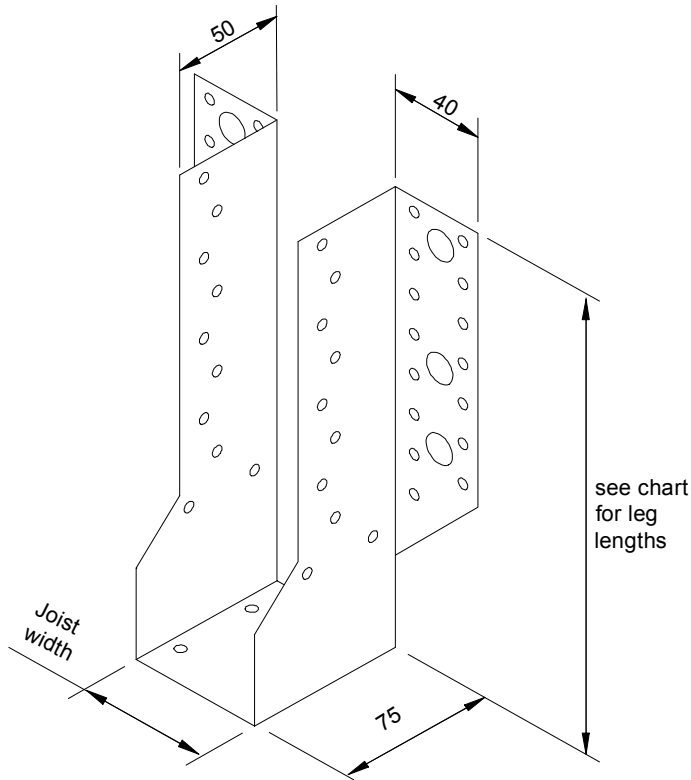
SPECIFICATION

Component is manufactured from 2mm galvanised steel to BS2989 Z2 class 'C' coating G275/BSEN10142/1991



Dimensions			
Type	Joist width	Gusset height	Leg length
MTH380/38	38	170	170
MTH380/50	50	165	165
MTH380/63	63	158	158
MTH380/75	75	152	152
MTH380/100	100	140	140
Bearing length 75			
All values are in millimetres			

Joist Hanger design loads to BS5268 & Eurocode 5									
	MTH380/ 38	MTH380/ 38	MTH380/ 38	MTH380/ 50	MTH380/ 50	MTH380/ 50	MTH380/ 63	MTH380/ 63	MTH380/ 63
	Nails only	Bolts only	Bolts & Nails	Nails only	Bolts only	Bolts & nails	Nails only	Bolts only	Bolts & nails
Mean load @ 1.5 mm deflection (kN)	7.02	8.72	10.57	6.65*	8.73*	11.27*	6.26	8.74	12.03
Mean load @ 2.5 mm deflection (kN)	9.66	11.97	14.52	9.11*	11.93*	15.79*	8.52	11.90	17.18
Mean ultimate load V _m (kN)	28.57	30.04	40.41	28.45*	32.19*	43.10*	28.32	34.53	46.01
Statistical factor K	2.13	2.13	2.13				2.13	2.13	2.13
Standard deviation σ	4.23	5.49	6.20				2.63	3.24	2.77
Characteristic strength V _{ch} (kN)	19.55	18.34	27.21	21.06*	22.79*	33.40*	22.71	27.62	40.11
Permissible safe working load (kN) (Long term)									
V _{BS} = Design values (BS5268 (kN))	11.96	11.54	16.03	12.20*	13.67*	18.71*	12.46	15.98	21.62
V _{EC5} = Design values (EC5 (kN))	9.02	8.46	12.56	9.72*	10.52*	15.41*	10.48	12.75	18.51
Permissible safe working load (kN) (Medium term)									
V _{BS} = Design values (BS5268 (kN))	13.36	12.89	17.91	13.62*	17.88*	20.91*	13.92	17.85	24.16
Mean deflection (mm)	4.60	2.98	3.27	4.66*	4.75*	4.18*	4.72	6.68	5.16
V _{EC5} = Design values (EC5 (kN))	12.03	11.29	16.74	12.96*	14.03*	20.55*	13.98	17.00	24.68
Mean deflection (mm)	3.03	2.24	2.94	3.85*	4.14*	4.09*	4.74	6.21	5.33
Permissible safe working load (kN) (Short term)									
V _{BS} = Design values (BS5268 (kN))	15.74	15.18	21.09	16.05*	17.98*	24.62*	16.39	21.02	28.45
V _{EC5} = Design values (EC5 (kN))	13.54	12.70	18.84	14.58*	15.78*	23.12*	15.72	19.12	27.77
Permissible safe working load (kN) (Long term)									
	MTH380/ 75	MTH380/ 75	MTH380/ 75	MTH380/ 100	MTH380/ 100	MTH380/ 100			
	Nails only	Bolts only	Bolts & nails	Nails only	Bolts only	Bolts & nails			
Mean load @ 1.5 mm deflection (kN)	6.15*	7.84*	10.39*	5.92	5.99	6.97			
Mean load @ 2.5 mm deflection (kN)	8.46*	10.65*	14.84*	8.35	8.06	9.99			
Mean ultimate load V _m (kN)	28.60*	33.61*	42.35*	29.19	31.70	34.73			
Statistical factor K				2.13	2.13	2.13			
Standard deviation σ				2.24	2.25	4.35			
Characteristic strength V _{ch} (kN)	23.26*	27.38*	35.36*	24.41	26.91	25.46			
Permissible safe working load (kN) (Long term)									
V _{BS} = Design values (BS5268 (kN))	12.71*	15.50*	19.37*	13.23	14.51	14.69			
V _{EC5} = Design values (EC5 (kN))	10.73*	12.64*	16.31*	11.27	12.42	11.75			
Permissible safe working load (kN) (Medium term)									
V _{BS} = Design values (BS5268 (kN))	14.19*	17.32*	21.64	14.78	16.21	16.41			
Mean deflection (mm)	5.17*	6.66*	5.16*	6.10	6.62	5.18			
V _{EC5} = Design values (EC5 (kN))	14.31*	16.85*	21.75*	15.02	16.56	15.67			
Mean deflection (mm)	5.21*	6.39*	5.18*	6.18	6.78	4.88			
Permissible safe working load (kN) (Short term)									
V _{BS} = Design values (BS5268 (kN))	16.71*	20.39*	25.49*	17.40	19.09	19.32			
V _{EC5} = Design values (EC5 (kN))	16.10*	18.96*	24.48*	16.90	18.63	17.63			
Notes									
a) All values relate to a 6mm gap between the supporting and the supported joist.									
b) Values marked ' * ' are linearly interpolated									



APPLICATION

This component combines both nail and bolt holes and is used for heavy duty applications such as multiple truss units, main trimmer joists, purlin to beam connections or similar situations where unusually heavy loads occur.

FIXING INSTRUCTIONS

Use either 3.75mm x 30mm long sheradised square twist nails

Qty Supporting timber = 34

Supported timber = 20

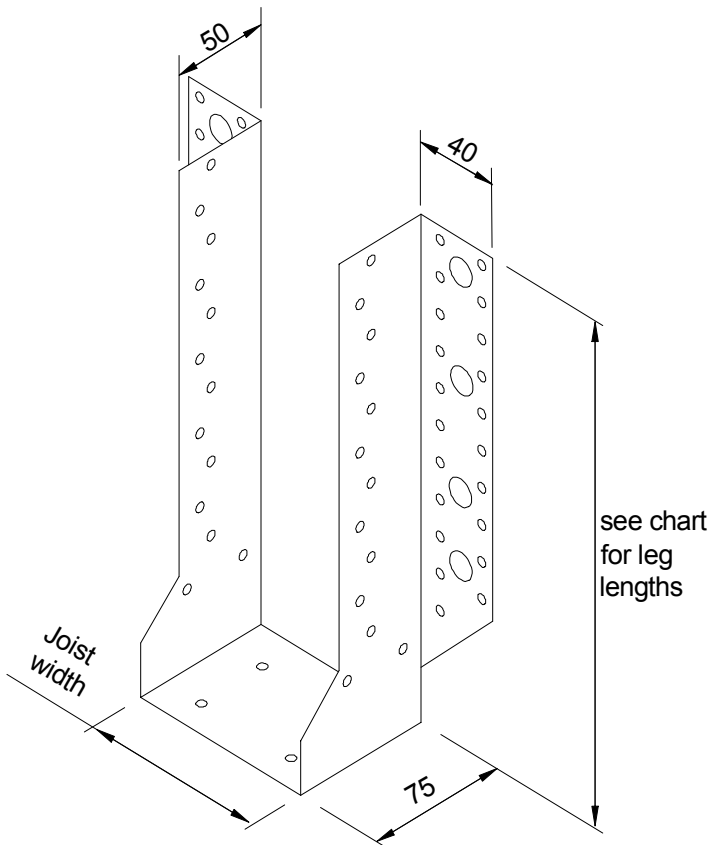
or 6 M12 dia high tensile (8.8) bolts or both in all holes provided.

SPECIFICATION

Component is manufactured from 2mm galvanised steel to BS2989 Z2 class 'C' coating G275/BSEN10142 /1991

Dimensions			
Type	Joist width	Gusset height	Leg length
MTH500/38	38	230	230
MTH500/50	50	225	225
MTH500/63	63	218	218
MTH500/75	75	212	212
MTH500/100	100	200	200
MTH500/125	125	188	188
MTH500/150	150	175	175
Bearing length 75			
All values are in millimetres			

	MTH500/ 38	MTH500/ 38	MTH500/ 38	MTH500/ 50	MTH500/ 50	MTH500/ 50	MTH500/ 63	MTH500/ 63	MTH500/ 63	MTH500/ 75	MTH500/ 75	MTH500/ 175
	Nails only	Bolts only	Bolts & Nails	Nails only	Bolts only	Bolts & nails	Nails only	Bolts only	Bolts & nails	Nails only	Bolts only	Bolts & nails
Mean load @ 1.5 mm deflection (kN)	10.29	14.98	14.03	10.28*	13.69*	13.37*	10.27*	12.29*	12.67*	10.27	11.00	12.02
Mean load @ 2.5 mm deflection (kN)	14.58	18.93	18.96	14.58*	17.72*	18.31*	14.59*	16.41*	17.62*	14.60	15.20	16.98
Mean ultimate load V_m (kN)	45.66	46.08	46.65	44.87*	46.35*	45.64*	44.02	46.64*	45.63*	43.24	46.92	45.62
Statistical factor K	2.13	2.13	2.13							2.13	2.13	2.13
Standard deviation σ	2.79	5.26	3.19							1.14	2.34	2.44
Characteristic strength V_{ch} (kN)	39.71	34.87	39.87	34.18*	32.52*	39.94*	28.22*	29.96*	40.02*	40.81	41.93	40.42
Permissible safe working load (kN) (Long term)												
V_{BS} = Design values (BS5268 (kN))	20.72	19.42	20.73	20.80*	20.31*	20.76*	20.89*	21.28*	20.79*	20.98	22.18	20.83
V_{EC5} = Design values (EC5 (kN))	18.33	16.09	18.40	18.49*	17.14*	18.48*	18.67*	18.29*	18.57*	18.84	19.35	18.66
Permissible safe working load (kN) (Medium term)												
V_{BS} = Design values (BS5268 (kN))	23.15	21.69	23.17	23.24*	22.69*	23.20*	23.34*	23.77*	23.23*	23.44	24.78	23.27
Mean deflection (mm)	5.13	3.74	3.20	5.18*	4.25*	3.47*	5.25*	4.81*	3.77*	5.31	5.32	4.04
V_{EC5} = Design values (EC5 (kN))	24.43	21.46	24.54	24.65*	22.86*	24.65*	24.89*	24.39*	24.77*	25.11	25.80	24.88
Mean deflection (mm)	5.61	3.67	3.46	5.71*	4.31*	3.83*	5.82*	5.01*	4.22*	5.93	5.66	4.59
Permissible safe working load (kN) (Short term)												
V_{BS} = Design values (BS5268 (kN))	27.26	25.55	27.28	27.37*	26.72*	27.32*	27.49	28.00*	27.36*	27.61	29.18	27.40
V_{EC5} = Design values (EC5 (kN))	27.49	24.14	27.60	27.73*	25.72*	27.72	28.00*	27.44*	27.86*	28.25	29.03	27.99
Permissible safe working load (kN) (Long term)												
	MTH500/ 100	MTH500/ 100	MTH500/ 100	MTH500/ 125	MTH500/ 125	MTH500/ 125	MTH500/ 150	MTH500/ 150	MTH500/ 150			
	Nails only	Bolts only	Bolts & Nails	Nails only	Bolts only	Bolts & nails	Nails only	Bolts only	Bolts & nails			
Mean load @ 1.5 mm deflection (kN)	10.15*	10.21*	12.04*	10.03*	9.42*	12.07*	9.92	8.64	12.10			
Mean load @ 2.5 mm deflection (kN)	14.60*	14.23*	16.94*	14.61*	13.27*	16.90*	14.62	12.31	16.87			
Mean ultimate load V_m (kN)	44.50*	45.33*	47.02*	45.76*	43.75*	48.42*	47.03	42.17	49.83			
Statistical factor K							2.13	2.13	2.13			
Standard deviation σ							3.04	4.70	2.98			
Characteristic strength V_{ch} (kN)	28.64*	29.12*	41.22*	34.6*	30.64*	42.34*	40.55	32.15	43.48			
Permissible safe working load (kN) (Long term)												
V_{BS} = Design values (BS5268 (kN))	21.36*	21.22*	21.70*	21.75*	20.26*	22.57*	22.14	19.31	23.45			
V_{EC5} = Design values (EC5 (kN))	18.79*	17.84*	19.13*	18.75*	16.35*	19.60*	18.71	14.84	20.07			
Permissible safe working load (kN) (Medium term)												
V_{BS} = Design values (BS5268 (kN))	23.87*	23.71*	24.24*	24.30*	22.64*	25.22*	24.73	21.58	26.20			
Mean deflection (mm)	5.35*	5.52*	4.44*	5.41*	5.73*	4.83*	5.46	5.94	5.23			
V_{EC5} = Design values (EC5 (kN))	25.05*	23.79*	25.50*	25.00*	21.78*	26.13*	24.95	19.78	26.76			
Mean deflection (mm)	5.79*	5.56*	4.87*	5.65*	5.46*	5.14*	5.51	5.36	5.42			
Permissible safe working load (kN) (Short term)												
V_{BS} = Design values (BS5268 (kN))	28.11*	27.92*	28.55*	28.62*	26.66*	29.70*	29.13	25.41	30.86			
V_{EC5} = Design values (EC5 (kN))	28.19*	26.77*	28.69*	28.13*	24.51*	29.39*	28.07	22.26	30.10			
Notes.												
a) All values relate to a 6mm gap between the supporting and supported joist.												
b) Values marked '*' are linearly interpolated												



APPLICATION

This component combines both nail and bolt holes and is used for heavy duty applications such as multiple truss units, main trimmer joists, purlin to beam connections or similar situations where unusually heavy loads occur.

FIXING INSTRUCTIONS

Use either 3.75mm x 30mm long sheradised square twist nails

Qty Supporting timber = 46

Supported timber = 26

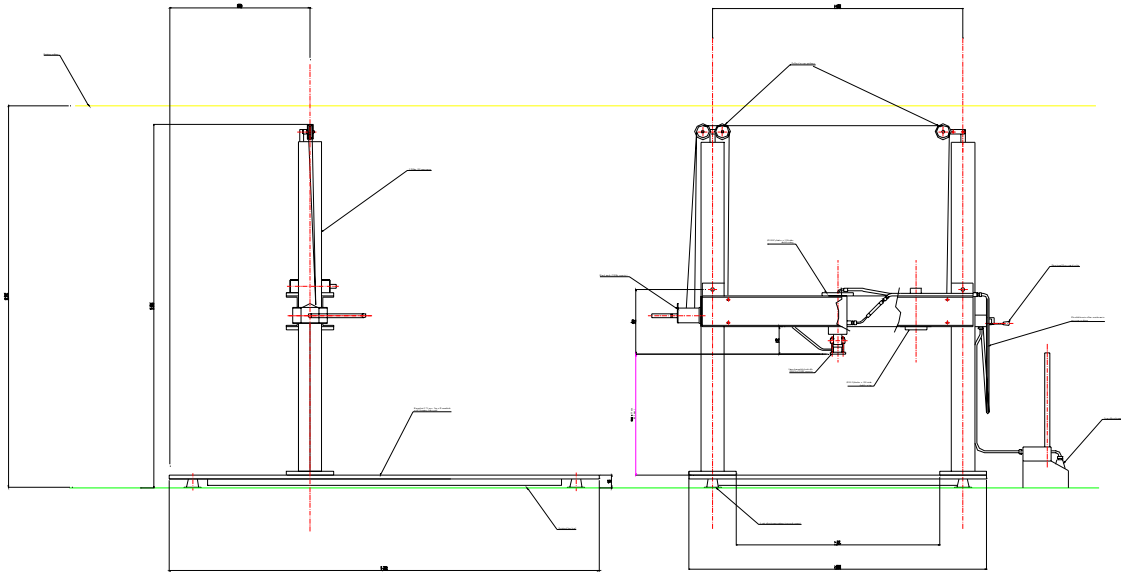
or 8 M12 dia high tensile (8.8) bolts
or both in all holes provided.

SPECIFICATION

Component is manufactured from 2mm galvanised steel to BS2989 Z2 class 'C' coating G275/BSEN10142 /1991

Dimensions			
Type	Joist width	Gusset height	Leg length
MTH620/38	38	290	290
MTH620/50	50	285	285
MTH620/63	63	278	278
MTH620/75	75	272	272
MTH620/100	100	260	260
MTH620/125	125	247	247
MTH620/150	150	235	235
Bearing length 75			
All values are in millimetres			

Joist Hanger design loads to BS5268 & Eurocode 5												
	MTH620/ 38	MTH620/ 38	MTH620/ 38	MTH620/ /50	MTH620/ 50	MTH620/ 50	MTH620/ 63	MTH620/ 63	MTH620/ 63	MTH620/ 75	MTH620/ 75	MTH620/ 75
	Nails only	Bolts only	Bolts & Nails	Nails only	Bolts only	Bolts & nails	Nails only	Bolts only	Bolts & nails	Nails only	Bolts only	Bolts & nails
Mean load @ 1.5 mm deflection (kN)	17.10	25.54	21.53	16.12*	22.73*	19.85*	15.06*	19.70*	18.04*	14.08	16.90	16.37
Mean load @ 2.5 mm deflection (kN)	24.92	34.39	31.75	23.07*	30.78*	29.03*	21.07*	26.87*	26.09*	19.23	23.26	23.38
Mean ultimate load V_m (kN)	55.10	55.53	60.81	55.89*	57.68*	62.92*	56.74*	60.02*	65.20*	57.54	62.18	67.31
Statistical factor K	2.13	2.13	2.13							2.13	2.13	2.13
Standard deviation σ	9.69	13.11	9.45							2.22	7.44	5.41
Characteristic strength V_{ch} (kN)	34.44	27.58	40.68	40.40*	33.66*	45.62*	46.84*	40.32*	50.90*	52.80	46.34	55.78
Permissible safe working load (kN) (Long term)												
V_{BS} = Design values (BS5268 (kN))	19.37	22.19	25.29	22.08*	23.47*	27.48*	25.02*	24.86*	29.85*	27.74	26.15	32.05
V_{EC5} = Design values (EC5 (kN))	15.90	12.73	18.78	18.64*	15.54*	21.03*	21.62*	18.58*	23.48*	24.37	21.39	25.74
Permissible safe working load (kN) (Medium term)												
V_{BS} = Design values (BS5268 (kN))	21.64	24.79	28.25	24.67*	26.22	30.70*	27.95*	27.77*	33.36*	30.99	29.21	35.81
Mean deflection (mm)	2.10	1.54	2.17	2.96*	2.12*	2.84*	3.89*	2.75*	3.56*	4.75	3.33	4.23
V_{EC5} = Design values (EC5 (kN))	21.19	16.97	25.03	24.85*	20.71*	28.04*	28.82*	24.76*	31.31*	32.49	28.51	34.33
Mean deflection (mm)	2.06	0.84	1.89	3.06*	1.61*	2.56*	4.14*	2.44*	3.30*	5.14	3.21	3.98
Permissible safe working load (kN) (Short term)												
V_{BS} = Design values (BS5268 (kN))	25.48	29.19	33.27	29.05*	30.88*	36.15	32.92*	32.71*	39.28*	36.50	34.40	42.17
V_{EC5} = Design values (EC5 (kN))	23.84	19.09	28.16	27.96*	23.30*	31.55*	32.42*	27.86*	35.22*	36.55	32.08	38.62
Permissible safe working load (kN) (Long term)												
	MTH620/ 100	MTH620/ 100	MTH620/ 100	MTH620/ /125	MTH620/ 125	MTH620/ 125	MTH620/ 150	MTH620/ 150	MTH620/ 150			
	Nails only	Bolts only	Bolts & Nails	Nails only	Bolts only	Bolts & nails	Nails only	Bolts only	Bolts & nails			
Mean load @ 1.5 mm deflection (kN)	13.69*	15.78*	15.71*	13.30*	14.67*	15.04*	12.91	13.56	14.38			
Mean load @ 2.5 mm deflection (kN)	19.47*	21.91*	22.42*	19.71*	20.56*	21.46*	19.96	19.21	20.50			
Mean ultimate load V_m (kN)	59.34*	63.48*	69.99*	61.15*	64.78*	72.68*	62.96	66.09	75.37			
Statistical factor K							2.13	2.13	2.13			
Standard deviation σ							3.04	7.10	4.27			
Characteristic strength V_{ch} (kN)	54.02*	47.88*	59.28*	55.26*	49.40*	62.76*	56.48	50.94	66.26			
Permissible safe working load (kN) (Long term)												
V_{BS} = Design values (BS5268 (kN))	28.60*	27.24*	32.91*	29.46*	28.33*	33.77*	30.32	29.42	34.64			
V_{EC5} = Design values (EC5 (kN))	24.94*	22.10*	27.35*	25.50*	22.81*	28.97*	26.07	23.52	30.59			
Permissible safe working load (kN) (Medium term)												
V_{BS} = Design values (BS5268 (kN))	31.95*	30.43*	36.77*	32.91*	31.65*	37.73*	33.87	32.87	38.70			
Mean deflection (mm)	4.86*	4.19*	4.73*	4.96*	5.06*	5.23*	5.07	5.92	5.74			
V_{EC5} = Design values (EC5 (kN))	33.24*	29.46*	36.48*	34.00*	30.41*	38.63*	34.76	31.36	40.78			
Mean deflection (mm)	5.19*	3.98*	4.72*	5.23*	4.75*	5.46*	5.28	5.53	6.21			
Permissible safe working load (kN) (Short term)												
V_{BS} = Design values (BS5268 (kN))	37.63*	35.83*	43.30*	38.76*	37.27*	44.43*	39.89	38.71	45.57			
V_{EC5} = Design values (EC5 (kN))	37.40*	33.14*	41.04*	38.25*	34.21*	43.46*	39.10	35.28	45.88			
Notes.												
a) All values relate to a 6mm gap between the supporting and supported joist.												
b) Values marked '*' are linearly interpolated												



SPECIFICATION

Load capacity	2 - 150kN
Load resolution	0.01kN
Displacement capacity	20mm
Displacement resolution	0.01mm
Converter	PC + 16 bit A-D converter
Calibration	NAMAS Grade 2 ($\pm 2\%$)
Max working width	1050mm
Max working height	1340mm

OPERATION

This test rig applies a load which is variable from 2 to 150 kN by means of a single hydraulic cylinder driven by a hand pump. The height of the cross beam is variable. The value of the load applied is measured by a Load Cell, deflection measurement is provided by two LVDT's which give the net deflection of the test piece. An analog to Digital board of 16 bit resolution installed in a PC converts the outputs from both the load Cells and LVDT's and the data is recorded in an Excel program. Processing of this data then provides a chart of safe working loads and deflections.

Data Sheet Testing Definitions

MEAN ULTIMATE LOAD - This is the average of a set of ultimate loads, calculated by dividing the sum of those ultimate loads by the number of readings.

STANDARD DEVIATION (Abbr = STDEV)- This is a measure of the spread of the results. For a normal curve approximately 68% of results would be expected to fall within ± 1 STDEV.

STATISTICAL FACTOR - This changes according to how many tests are carried out, the more test the smaller its value. This value affects the results of the analysis.

CHARACTERISTIC STRENGTH - This value is required to be twice the working load. Its calculated by multiplying the statistical factor by the standard deviation and subtracting it from the mean ultimate load.

SAFE WORKING LOAD (BS5268) - This is calculated by taking the smallest value of ultimate load and dividing by two factors, one of which is constant for a given set of conditions and the other is a function of the loading duration, ie short,medium or long term.

SAFE WORKING LOAD (Eurocode 5) - This uses the characteristic strength as its basis together with two factors that represent the loading duration and a safety factor. The value is obtained by multiplying the characteristic strength by the load duration factor and then dividing by the safety factor.

Safe Working Load Table (values in kN)							
HANGER TYPE	HANGER WIDTH						
	38	50	63	75	100	125	150
Truss Clip	2.53	3.36					
Mono Truss Shoe	5.00	5.24					
Mini Joist Support	3.24	3.63					
A340	6.10	6.62*	7.18	7.69	8.77*		
B340	8.39	10.18*	11.99	13.71	12.97*	12.20*	11.42
Girder Truss Shoe	8.41	9.22*	10.09	10.89	12.57*		
MTH340 (nails only)	9.22	10.11*	11.08	14.30			
MTH340 (bolts only)	12.66	11.47*	10.38	16.30			
MTH340 (bolts+nails)	13.13	14.48*	15.95	18.15			
MTH380 (nails only)	9.77	10.53*	11.35	11.63*	12.21		
MTH380 (bolts only)	9.17	11.40*	13.81	13.69*	13.45		
MTH380 (bolts+nails)	13.59	16.69*	20.05	17.68*	12.73		
MTH500 (nails only)	19.85	17.09*	14.11*	11.35	14.32*	17.30*	20.27
MTH500 (bolts only)	17.43	16.26*	14.98*	13.81	14.56*	15.32*	16.07
MTH500 (bolts+nails)	19.93	19.97*	20.01*	20.05	20.61*	21.17*	21.73
MTH620 (nails only)	17.22	20.20*	23.42*	26.40	27.01*	27.63*	28.24
MTH620 (bolts only)	13.79	16.83*	20.16*	23.17	23.94*	24.70*	25.47
MTH620 (bolts+nails)	20.34	22.81*	25.45*	27.89	29.64*	31.38	33.13
Note 1. Values marked '*' are linearly interpolated							
Note 2. Values are characteristic strengths/2							